UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,713	12/23/2005	Guangming Zhang	19422	8630

272   7590   08/04/2009
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ART UNIT	PAPER NUMBER
2419	

MAIL DATE	DELIVERY MODE
08/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/562,713	ZHANG, GUANGMING
	Examiner	Art Unit	
	CHRISTOPHER T. WYLLIE	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 June 2009</u>.
2a)☐ This action is **FINAL**.　　　2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2 and 4-11</u> is/are pending in the application.
　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1,2 and 4-11</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>23 December 2005</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　　a)☒ All　b)☐ Some * c)☐ None of:
　　　1.☒ Certified copies of the priority documents have been received.
　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.
　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED OFFICE ACTION

1.   This action is responsive to the communication received June 17th, 2009. Claims

1, 4, and 10 have been amended. Claim 3 has been canceled. Claims 1-2 and 4-11

have been entered and are presented for examination.

2.   Application 10/562,713 is a 371 of PCT/CN03/01159 (12/31/2003) and claims

priority to Foreign Application China 03145506.9 (06/26/2003).

3.   Applicant's arguments, filed June 17th, have been carefully considered, but

deemed moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 1-2 and 4-11 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

        Claims 1, 5, and 10 recite the limitation "the multicast address is a result of an

AND operation on the multicast address and address mask." It is unclear to the

examiner whether the multicast source address is the result of an AND operation with a

multicast address and an address mask, or if the multicast address is the result of an

AND operation with the multicast source address and the address mask, or if the

applicant is claiming something else.

        Claims 2, 4, 6-9, and 11 are also rejected for the reason stated above, since they

ultimately depend on rejected claims 1, 5, and 10.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

8.   Claims 1-2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Hardjono (WO 00/33509) in view of Furukawa et al. (US 2002/0196782).

Regarding claim 1, Hardjono discloses creating multicast source information

(page 6, lines 5-11 [the initiator of the multicast stores a data structure containing

the authorized members of the multicast and their identities]); a management

platform of the multicast source authentication information dynamically updating said

multicast source information in accordance with restriction on multicast source **(page 6,**

lines 9-10 [the data structure is updated when a new member is added to the

multicast group or an old member logs off of the multicast]); controlling the

multicast message sent from the multicast source in accordance with said multicast

source authentication information **(page 6, lines 12-14 [once the multicast is initiated**

a message is sent to each authorized member of the multicast group]); and that

the multicast source authentication information is recorded in tabular form **(page 6,**

lines 6-8 [the authorized members of the multicast are stored in a member list on

each network device 104]). Hardjono is silent regarding the table containing a

corresponding relationship between the multicast source address and the multicast

address and the multicast address is a result of an AND operation on the multicast

source address and the address mask. However, Furukawa et al. discloses such

features **(paragraph 0410, lines 1-6 [it is determined whether the source IP address**

ANDed with source IP address mask is equal to a destination address

(background paragraph 0003 of the instant application's specification states that

an IP address can be used as a multicast source and a multicast address can be a

destination address)]).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to implement the method of Furukawa et al. into the

system of Hardjono. The method of Furukawa et al. can be implemented by enabling

each network device to store destination addresses (multicast address) determined

from an AND operation of IP addresses (source multicast addresses) and an address

mask. The motivation for this is to enable the network device to manage multiple

multicast sessions with information stored in the member lists.

Regarding claim 2, Hardjono further discloses creating multicast source

information in a master multicast source authentication server and slave multicast

servers **(page 5, lines 9-11 and page 6, lines 5-8 [each network device 104 (Figure**

1) can be a server; each IP address of each authorized member is stored on a member list of each network device 104 of each subnet; this includes the initiator of the multicast and the receivers of the multicast]); wherein the management platform of the multicast source information comprises a master multicast source server **(page 5, lines 9-11 and page 6, lines 5-8 [the network device 104 connected to the initiator is the master server and it contains a list of all authorized members of the multicast])**.

Regarding claim 4, Hardjono further discloses that the slave multicast source authentication server, in accordance with the multicast source authentication information in the master multicast source authentication server, updating the multicast source information stored in a predetermined period ; when the multicast authentication in the master multicast source authentication server is changed, notifying the slave multicast authentication server to update the multicast source information stored **(page 6, lines 12-14, page 7, lines 19-25 [once the multicast is initiated a message is sent to all authorized members of the multicast group; if all the replies are not collected in a given amount of time by the network device 104 of the initiator, a new encryption key is generated and is sent to each member that did reply; therefore the authentication information of the receiving members is updated whenever there is a discrepancy in the amount of replies received by the network node associated with the initiator and the encryption key of the receiving members is updated to the new encryption key])**.

9.   Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hardjono (WO 00/33509) in view of Furukawa et al. (US 2002/0196782) in view of

Takahashi (US 6,046,989).

Regarding claim 10, Hardjono discloses a multicast source control system,

comprising: a master multicast source authentication server a group of slave multicast

source authentication servers **(page 5, lines 9-11 and page 6, lines 12-15 [once the**

multicast is initiated by the initiator the network device 104 forwards a message

to other network devices 104; therefore the server that receives the multicast

message form the initiator can be the call the "master" and the receiving servers

can be called the "slaves"]) and a predefined node **(page 5, lines 9-11 and page 6,**

lines 12-15 [once the multicast is initiated by the initiator the network device 104

forwards a message to other network devices 104; therefore the first network

device 104 acts as a predefined node to other network devices 104]); wherein,

when multicast source authentication information stored therein the master multicast

source authentication server is changed, the master multicast source authentication

server notifies the slave multicast source authentication servers **(page 6, lines 12-14,**

page 7, lines 19-25 [one the multicast is initiated a massage is sent to all

authorized members of the multicast group; if all the replies are not collected in a

given amount of time by the network device104 of the initiator, a new encryption

key is generated and is sent to each member that did reply]); the slave multicast

source authentication servers updates multicast source authentication information

stored therein at a predefined period in accordance with the multicast source

authentication information in the master multicast source authentication server **(page 6, lines 12-14, page 7, lines 19-25 [a new encryption key is generated and is sent to each member that did reply; therefore the information is updated])**; when the slave multicast source authentication servers receive an authentication message transmitted from a the predefined node, they transmit a corresponding authentication response to said predefined node in accordance with the authentication information stored therein **(page 6, lines 12-15 and page 7, lines 10-14 and page 8, lines 3-4 [the multicast server receives a message for the initiator and forwards a query message to all member on the list and waits for a response from each member; all members reply to the query message])**; when the predefined node receives a multicast message sent from the multicast source, it initiates an authentication request to the preconfigured multicast source authentication server thereof, and controls the multicast message sent from the multicast source in accordance with the response from the multicast source authentication server **(page 6, lines 12-15 and page 7, lines 10-14 and page 8, lines 3-4 [the multicast server receives a message for the initiator and forwards a query message to all member on the list and waits for a response from each member; if all members reply then the multicast is provides for those members])**; and that the multicast source authentication information is recorded in tabular form **(page 6, lines 6-8 [the authorized members of the multicast are stored in a member list on each network device 104])**. Hardjono is silent regarding the table containing a corresponding relationship between the multicast source address and the multicast address and the multicast address is a result of an AND operation on the

multicast source address and the address mask. However, Furukawa et al. discloses such features **(paragraph 0410, lines 1-6 [it is determined whether the source IP address ANDed with source IP address mask is equal to a destination address (background paragraph 0003 of the instant application's specification states that an IP address can be used as a multicast source and a multicast address can be a destination address)])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Furukawa et al. into the system of Hardjono. The method of Furukawa et al. can be implemented by enabling each network device to store destination addresses (multicast address) determined from an AND operation of IP addresses (source multicast addresses) and an address mask. The motivation for this is to enable the network device to manage multiple multicast sessions with information stored in the member lists.

The references as applied above are silent regarding the master multicast source authentication server receives an authentication request transmitted from the predefined node, it transmits a corresponding authentication response to said predefined node in accordance with the authentication information stored therein. However, Takahashi discloses such features **(see Figure 8, steps S10, S14, S16 and S38 and column 5 66-67 and column 6, lines 1-4 [the multicast server receives a request for multicast connection registration; the Table 28 is searched to determine if the multicast connection registration exist; if it does it transmits a response])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Takahashi into the system of the references as applied above. The method of Takahashi can be implemented by enabling the first network device 104 to receive a request from another network device in order to determine a user's association with the multicast. The motivation for this is to provide a secure multicast to authorized members.

Regarding claim 11, Hardjono further discloses that the predefined node is a router or a switch **(page 5, lines 9-11 [each network device can be a router]).**

Response to Arguments

10.   Applicant's arguments, filed June 17th, have been carefully considered, but deemed moot in view of the new grounds of rejection.

Conclusion

11.   Claims 5-9 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Note: Claims 5-9 have be previously indicated as allowed with reasons for allowance in Final Office Action dated March 17th, 2009. Claims 5-9 will be allowable once the 35 USC 112, 2nd paragraph issue has been resolve.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER T. WYLLIE whose telephone number is (571) 270-3937. The examiner can normally be reached on Monday through Friday 8:30am to 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2419

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